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A

LETTER

TO

LORD CATHCART.

[Price One Shilling and Six-Pence.]

A

LETTER

TO

LORD CATHCART,

PRESIDENT OF THE BOARD OF POLICE IN SCOTLAND,

CONCERNING

THE RECOVERY OF PERSONS

DROWNED AND SEEMINGLY DEAD.

By Dr. WILLIAM CULLEN,

HIS MAJESTY'S FIRST PHYSICIAN AT EDINBURGH.

LONDON,

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M DCC LXXVI.

LETTER,

FROM

Dr. CULLEN,

TO

LORD CATHCART.

MY LORD,

YOUR Lordſhip does me a great deal of honour, in aſking my opinion about the recovery of drowned perſons, and I ſhall be very happy if I can contribute any thing that may ſecond your Lordſhip's humane and public-ſpirited intentions in this matter. With that view, I have drawn up the following reflections, ſubmitting to your Lordſhip's judgment, how far they may be of ſervice to the public.

IT may be generally obſerved, that few endeavours are uſed for the recovery of

drowned perſons; becauſe the by-ſtanders, and even phyſicians and ſurgeons, from concluſions too ſoon with reſpect to their death and irrecoverable ſtate.

The many inſtances, however, which have occurred of the recovery of perſons, in whom all the ordinary ſigns of death had appeared, ſhould correct the miſtakes on this ſubject, which are too common, and which, it is hoped, may be entirely removed, if we can engage men to conſider, that, from the reaſon of things, drowned perſons are more generally in a recoverable ſtate than has been imagined.

To this purpoſe, I would have them obſerve, That in men, and other animals, life does not immediately ceaſe upon the ceſſation of the action of the lungs and heart, and the conſequent ceaſing of the circulation of the blood. Though the circulation of the blood is neceſſary to the ſupport of life, the living ſtate of animals does not conſiſt in that alone, but eſpecially depends upon a certain condition in the nerves, and muſcular fibres, by which

they

they are ſenſibie and irritable, and upon which the action of the heart itſelf depends. It is this condition, therefore, which may be properly called *the vital principle in animals*; and as long as this ſubſiſts, or though much weakened, as long as it can be again reſtored to its activity and vigour, while, at the ſame time, the organization of the parts remains entire, it is preſumed, that the action of the heart and lungs, the circulation of the blood, and therefore all the functions of life, may alſo, though they have many of them long ceaſed, be again entirely reſtored. That, in many caſes, the vital principle ſubſiſts for ſome time after the circulation of the blood has ceaſed, is aſcertained by many experiments; and that it can be again reſtored to all the purpoſes of life, although its activity has ſeemingly ceaſed for ſome time, is alſo aſcertained by many obſervations. During what length of time this vital principle may ſubſiſt in the human ſyſtem, after its ſeeming extinction, cannot be ex-

actly determined. But analogy allows us to ſuppoſe it may ſubſiſt very long; and the many well-atteſted facts of the recovery of perſons who had been long in a ſeeming ſtate of death, ſhould prevent our raſhly ſetting bounds to the poſſibility of the recovery of drowned perſons.

FURTHER: From the diſſection of drowned men, and other animals, it is known, that very often the water does not enter into the cavity of the lungs, nor even into the ſtomach, in any quantity to do hurt to the ſyſtem; and, in general, it is known, that, in moſt caſes, no hurt is done to the organization of the vital parts. It is therefore probable, that the death which enſues, or ſeems to enſue in drowned perſons, is entirely owing to the ſtopping of reſpiration, and to the ceaſing, in conſequence, of the circulation of the blood, whereby the body loſes its heat, and with that the activity of the vital principle. But as this heat and activity in many caſes is again recoverable by various means, ſo as long as this

this can be done, it muſt be poſſible alſo to recover drowned perſons. Experience, eſpecially of late years, has fully confirmed this opinion. We have now authentic accounts, that ſince the inſtitution of Societies for the recovery of drowned perſons at AMSTERDAM and PARIS, a large proportion, no leſs than three-fourths of the whole number, to whom the remedies directed by theſe Societies were applied, had been recovered.

IT muſt be acknowledged, that there are caſes, in which, from the deſtruction of the organization, and perhaps from other circumſtances, the recovery of drowned perſons may not be poſſible. But, as it is ſeldom that ſuch caſes can be certainly diſtinguiſhed, ſo they are very ſeldom to be ſuppoſed; and although the drowned perſons have lain for ſeveral hours in the water, attempts ought to be made for their recovery. Even ſuppoſing the caſe very doubtful, the labour of many fruitleſs attempts is not to be put in competition with one in-

ſtance of ſucceſs, where a perſon is recovered, who muſt have certainly died, if great pains had not been taken for his recovery.

With reſpect to the particular means to be employed for the recovery of drowned perſons, it is to be obſerved, in the *firſt* place, That ſuch as were recommended and practiſed, upon a ſuppoſition that the ſuffocation was occaſioned by the quantity of water taken into the body, and therefore to be evacuated again, were very unhappily adviſed. The hanging up of perſons by the heels, or ſetting them upon the crown of the head, or rolling the body upon a caſk, were generally practiſed, upon a ſuppoſition altogether falſe; or upon the ſuppoſition of a caſe, which, if real, is apprehended to be irrecoverable. At the ſame time, theſe practices were always attended with the danger of burſting ſome veſſels in the brain or lungs, and of rendering thereby ſome caſes incurable, that were not ſo from the drowning alone. All ſuch practices,

tices, therefore, are now very properly disapproved of and forbid.

In these cases, in which the body has not been long in the water, and in which, therefore, the natural heat is not entirely extinguished, nor the irritability of the moving fibres very greatly impaired, it is possible, that a good deal of agitation of the body, may be the only means necessary to restore the action of the vital organs; but in other cases, where the heat and irritability have ceased to a greater degree, it is to me very doubtful, if much agitation can be safe, and if any degree of it can be useful, till the heat and irritability are in some measure restored. In all cases, any violent concussion cannot be safe, and, I believe, is never necessary. It may be proper here to observe also, that, in transporting the body from the place where it is taken out of the water, to the place where it may be necessary for applying the proper means of its recovery, all postures exposing to any improper compression, as that of the body's

being carried over a man's ſhoulder, are to be avoided. The body is to be kept ſtretched out, with the head and upper parts a little raiſed; and care is to be taken to avoid the neck's being bent much forward. In this manner, laid upon one ſide, and upon ſome ſtraw in a cart, it may be moſt properly conveyed; and the agitation which a pretty briſk motion of the cart may occaſion, will, in moſt caſes, do no harm.

FROM the account I have given above of the cauſes, or of the appearances, of death in drowned perſons, it is evident that the firſt ſtep to be taken for their recovery is, to reſtore the heat of the body, which is abſolutely neceſſary to the activity of the moving fibres. For this purpoſe, the body, as ſoon as poſſible, is to be ſtripped of its wet cloths, to be well dried, and to be wrapped up in dry, and, if poſſible, warm coverings; and it is to be wiſhed, in all caſes, as ſoon as the report of a perſon's being drowned is heard, that blankets ſhould be immediately

ately carried to the water ſide; ſo that, as ſoon as the body is got out of the water, the change of covering, juſt now mentioned, may be inſtantly made; or, if the body has been naked when drowned, that it may be immediately dried and defended againſt the cold of the air. Beſides covering the body with blankets, it will be further of advantage, if it can be done without loſs of time, to cover the drowned body with a warm ſhirt or waiſtcoat immediately taken from a living perſon.

When, at the time of a perſon's being drowned, it happens, that the ſun ſhines out very hot, I think there can be no better means of recovering the heat, than by expoſing the naked body, in every part, to the heat of the ſun, while, at the ſame time, all other means, neceſſary or uſeful for the recovery of life, are alſo employed.

When the heat of the ſun cannot be employed, the body ſhould be immediately tranſported to the neareſt houſe that

can

can be got convenient for the purpoſe: The fitteſt will be one that has a tolerably large chamber, in which a fire is ready, or can be made; and, if poſſible, the houſe ſhould afford another chamber, in which alſo a fire can be provided.

When the drowned body is brought into ſuch a houſe, and care is at the ſame time taken that no more people are admitted than are abſolutely neceſſary to the ſervice of the drowned perſon, every endeavour muſt be immediately employed for recovering the heat of the body, and that by different meaſures, as circumſtances ſhall direct.

If, in the neighbourhood of the place, there be any brewery, diſtillery, dyery, or fabric, which gives an opportunity of immediately obtaining a quantity of warm water, and a convenient veſſel, there is nothing more proper than immerſing the body in a warm bath. Even where a ſufficient quantity of warm water cannot be had at once, the bath may be ſtill practiſed, if the accident has happened in

or very near a town or village, when a great many fires may be at once employed in heating ſmall quantities of water, for in this way the neceſſary quantity may be ſoon obtained. To encourage this practice, it is to be obſerved, That one part of boiling water is more than ſufficient to give the neceſſary heat to two parts of ſpring or ſea water, as it is not proper to apply the bath at firſt very warm, nor even of the ordinary heat of the human body, but ſomewhat under it; and, by the addition of warm water, to bring it gradually to a heat very little above it.

If the drowned body be of no great bulk, it may be conveniently warmed by a perſon's lying down in bed with it, and taking it near to their naked body, changing the poſition of it frequently, and, at the ſame time, chafing, and rubbing with warm cloths, the parts which are not immediately applied to their warm body.

If none of theſe meaſures can be conveniently practiſed, the body is to be laid upon a bed before a moderate fire, and

frequently

frequently turned, to expoſe the different parts of it; and thus, by the heat of the fire gradually applied, and by rubbing the body well with coarſe towels, or other cloths well warmed, pains are to be taken for reſtoring its heat. This will be promoted by warm cloths applied and frequently renewed under the hams and arm-pits, and by hot bricks, or bottles of warm water, laid to the feet.

In the practice of rubbing, it has been propoſed to moiſten the cloths applied with camphorated ſpirits, or other ſuch ſtimulating ſubſtances; but I think this muſt prove an impediment to the rubbing; and I would not recommend any practice of this kind, except, perhaps, the application of the vinous ſpirit of ſal ammoniac to the wriſts and ankles only.

For recovering the heat of the body, it has been propoſed, to cover it all over with warm grains, aſhes, ſand, or ſalt; and where theſe, ſufficiently warm, are ready at hand, they may be employed; but it is very ſeldom they can be obtained,

and

and the application might often interfere with other measures that may be necessary. All therefore that I can propose with respect to the use of these, is to observe, that bags of warm and dry salt may be amongst the most convenient applications to the feet and hands of drowned persons; and the quantity necessary for this purpose, may be got pretty quickly, by heating the salt in a frying-pan, over a common fire.

While these measures are taking for recovering the heat, means are, at the same time, to be employed for restoring the action of the moving fibres. It is well known that the intestines are the parts of the body which, both from their internal situation and peculiar constitution, retain the longest their irritability; and therefore, that, in drowned persons, stimulants applied may have more effect upon the intestines than upon other parts. The action, therefore, of the intestines is to be supported or renewed as soon as possible, as the restoring and supporting

ſupporting the action of ſuch a conſidera-ble portion of moving fibres, as thoſe of the inteſtines, muſt contribute greatly to reſtore the activity of the whole ſyſtem.

For exciting the action of the inteſ-tines, the moſt proper mean is, the ap-plication of their ordinary ſtimulus of di-latation; and this is moſt effectually ap-plied, by forcing a quantity of air into them by the fundament. Even the throwing in cold air has been found uſe-ful; but it will certainly be better if heat-ed air can be employed; and further, if that air can be impregnated with ſome-thing, which, by its acrimony, alſo may be powerful in ſtimulating the inteſtines.

From all theſe conſiderations, the ſmoke of burning tobacco has been moſt commonly applied, and has, upon many occaſions, proved very effectual. This will be moſt properly thrown in by a particular apparatus, which, for other pur-poſes as well as this, ſhould be in the hands of every ſurgeon, and, at leaſt, ſhould, at the public expence, be at hand, in every part

part of the country where drownings are likely to happen. With regard to the uſe of it, I have to obſerve, that till the tobacco is kindled in a conſiderable quantity, a great deal of cold air is blown through the box and tube; and as that, as hinted above, is not ſo proper, care ſhould be taken to have the tobacco very well kindled, and to blow through it very gently, till the heated ſmoke only paſſes through. If, upon certain occaſions, the apparatus referred to ſhould not be at hand, the meaſure however may be executed by a common tobacco-pipe, in the following manner: a common glyſter-pipe, that has a bag mounted upon it, is to be introduced into the fundament, and the mouth of the bag is to be applied round the ſmall end of a tobacco-pipe. In the bowl of this, tobacco is to be kindled; and, either by a playing card made into a tube, and applied round the mouth of the bowl; or by applying, upon this, the bowl of another pipe that is empty, and blowing through it, the ſmoke may be

thus

thus forced into the inteſtines, and, in a little time, in a conſiderable quantity.

If none of theſe means for throwing in the ſmoke can be employed, it may be uſeful to inject warm water to the quantity of three or four Engliſh pints. This may be done by a common glyſter bag and pipe, but better by a large ſyringe; and it may be uſeful to diſſolve in the water ſome common ſalt, in the proportion of half an ounce to an Engliſh pint; and alſo to add to it ſome wine or brandy.

While theſe meaſures for recovering the heat of the body and the activity of the moving fibres are employed, and eſpecially after they have been employed for ſome time, pains are to be taken to compleat and finiſh the buſineſs, by reſtoring the action of the lungs and heart.

On this ſubject, I am obliged to my learned and ingenious Colleague, Dr. Monro, who has made ſome experiments for aſcertaining the beſt manner of inflating the lungs of drowned perſons. By theſe experiments he finds it may be more conveniently

conveniently done, by blowing into one of the noſtrils, than by blowing into the mouth. For blowing into the noſtril, it is neceſſary to be provided with a wooden pipe, fitted at one extremity for filling the noſtril, and at the other, for being blown into by a perſon's mouth, or for receiving the pipe of a pair of bellows, to be employed for the ſame purpoſe. Dr. MONRO finds, That a perſon of ordinary ſtrength can blow into ſuch a pipe, with a ſufficient force to inflate the lungs to a conſiderable degree; and thinks the warm air from the lungs of a living perſon, will be moſt conveniently employed at firſt; but when it is not ſoon effectual, in reſtoring the reſpiration of the drowned perſon, and that a longer continuance of the inflation is neceſſary, it may be proper to employ a pair of bellows, large enough at once to contain the quantity of air neceſſary to inflate the lungs to a due degree.

WHETHER the blowing in is done by a perſon's mouth, or by bellows, Dr

MONRO obſerves, that the air is ready to paſs by the gullet into the ſtomach; but that this may be prevented, by preſſing the lower part of the larynx backwards upon the gullet. To perſons of a little knowledge in anatomy, it is to be obſerved, that the preſſure ſhould be only on the cricoid cartilage, by which the gullet may be ſtraitened, while the paſſage through the larynx is not interrupted.

WHEN, by blowing thus into the noſtril, it can be perceived, by the raiſing of the cheſt or belly, that the lungs are filled with air, the blowing in ſhould ceaſe; and, by preſſing the breaſt and belly, the air received into the lungs ſhould be again expelled; then the blowing and expulſion ſhould be again repeated; and thus the practice is to be continued, ſo as to imitate, as exactly as poſſible, the alternate motions of natural reſpiration.

IT is hardly neceſſary to obſerve, that when the blowing into the noſtril is practiſed

tiſed, the other noſtril and the mouth ſhould be accurately cloſed.

If it ſhould happen, that, in this practice, the air does not ſeem to paſs readily into the lungs, Dr Monro informs me, it is very practicable to introduce directly into the glottis and trachea a crooked tube, ſuch as the catheter uſed for a male adult. For this he offers the following directions: The ſurgeon ſhould place himſelf on the right ſide of the patient, and introducing the forefinger of his left hand at the right corner of the patient's mouth, he ſhould puſh the point of it behind the epiglottis; and uſing this as a directory, he may enter the catheter, which he holds in his right hand, at the left corner of the patient's mouth, till the end of it is paſſed beyond the point of his forefinger; and it is then to be let fall, rather than puſhed into the glottis; and through this tube, by a proper ſyringe applied to it, air may be with certainty blown into the lungs. I obſerve, that ſome ſuch meaſure had been pro-

poſed by Monſ. LE CAT in France; but I have not learned that it has ever been put in practice, and I am afraid it may be attended with ſeveral difficulties, and muſt be left to the diſcretion of ſurgeons, who may be properly provided and inſtructed for this purpoſe.

FOR throwing air with more certainty into the lungs, it has been propoſed to open the wind-pipe in the ſame manner as is done in the operation which the ſurgeons call *Bronchotomy*, and by this opening to blow into the lungs; and when the blowing into the noſtril does not ſeem to ſucceed, and a ſkilful operator is at hand, I allow that the meaſure may be tried; but I can hardly ſuppoſe, that it will be of any advantage when the blowing in by the noſtril has entirely failed.

IT is to be hoped, that, by blowing into the lungs one way or other, even a quantity of water, which had been taken into the lungs, may be again waſhed out; and the ſame ſeems to be the only effectual means of waſhing out that frothy matter

matter which is found to fill the lungs of drowned perſons, and which proves, if I miſtake not, the moſt common cauſe of their mortal ſuffocation. This practice, therefore, is to be immediately entered upon, and very aſſiduouſly continued for an hour or two together.

I HAVE now mentioned the meaſures chiefly to be purſued and depended upon, for the recovery of drowned perſons; but muſt ſtill mention ſome others that may prove conſiderable helps to it.

ONE of theſe is, the opening the jugular veins to relieve the congeſtion, which almoſt conſtantly occurs in the veins of the head, and is probably a frequent cauſe of the death of drowned perſons. For relieving this congeſtion, the drawing ſome blood from the jugulars, very early, may certainly be of ſervice; and it will be particularly indicated by the livid and purple colour of the face. It may even be repeated, according to the effect it ſeems to have in taking off that ſuffuſion;

but when the drowned perſon is, in ſome meaſure recovered, and ſome motion of the blood is reſtored, it will be proper to be very cautious in making this evacuation, and at leaſt to take care not to puſh it ſo far as to weaken too much the recovering, but ſtill weak powers of life.

ANOTHER meaſure for recovering the activity of the vital principle, is the application of certain ſtimulants to the more ſenſible parts of the body, ſuch as holding the quick lime ſpirit of ſal ammoniac to the noſe, or putting a little of it upon a rag into the noſtrils. It has been uſual to pour ſome liquids into the mouth; but it is dangerous to pour in any quantity of liquid, till it appear that the power of ſwallowing is in ſome meaſure reſtored.

WHEN a ſurgeon is at hand, and is provided with a proper apparatus, a crooked pipe may be introduced into the gullet, and by this a gill or two of warm wine may be poured down into the ſtomach, and probably with advantage. But

when

when no ſuch apparatus is at hand, or ſurgeon to employ it, and the power of ſwallowing is ſtill doubtful, the trial of pouring liquids into the mouth ſhould be made, by a ſmall quantity of warm water alone; and when, from ſuch trial, the power of ſwallowing ſhall appear to be recovered, it may then be allowable, to favour the further recovery of the perſon, by pouring in ſome wine or brandy—In ſhort, till ſome marks of the recovery of ſwallowing and reſpiration appear, it will not be ſafe to apply any ſtimulants to the mouth, excepting that of a few drops of ſome acrid ſubſtance of the tongue, and which are not of bulk enough to ſlide back upon the glottis: I can think of no ſtimulant, more conveniently and ſafely to be applied to the mouth and noſtrils, than a moderate quantity of tobacco-ſmoke blown into them.

THOUGH I do not imagine that drowned perſons are ever hurt by the quantity of water taken into their ſtomach, yet,

as a ſtimulus applied to the ſtomach, and particularly, as the action of vomiting proves a ſtimulus to the whole ſyſtem, I can have no objection to the French practice, of throwing in an emetic as ſoon as any ſwallowing is reſtored. For this purpoſe, I would ſucceſſively thrown in ſome tea-ſpoonfulls of the ipecacuana wine; and, when it does not interfere with other neceſſary meaſures, the fauces may be gently irritated by an oiled feather thruſt into them.

WITH regard to the ſtimulants, I muſt conclude with obſerving, That when a body has lain but for a ſhort time in the water, and that, therefore, its heat and irritability are but little impaired, the application of ſtimulants alone has been often found effectual for the recovery; but, on the contrary, when the body has lain long in the water, and the heat of it is very much extinguiſhed, the application of any other ſtimulants, than that of tobacco-ſmoke to the inteſtines, can be of

of very little ſervice; and the application of others ought never to interfere with the meaſures for recovering heat, and the motion of reſpiration.

With reſpect to the whole of theſe practices, I expect, from the principles upon which they are, in general, recommended, it will be underſtood, that they are not to be ſoon diſcontinued, though their effects do not immediately appear. It is obvious that, in many caſes, it may be long before the heat of the body, and the activity of the vital principle, can be reſtored, although, in a longer time, it may very poſſibly be accompliſhed. In fact, it has often happened, that though means, employed for one hour, have not ſucceeded, the ſame, continued for two or more hours, have at length had the wiſhed-for effects. It ſhould therefore be a conſtant rule, in this buſineſs, that the proper means ſhould be employed for ſeveral hours together, unleſs it happen, that, while no ſymptoms of returning

ing life appear, the ſymptoms of death ſhall, at the ſame time, go on conſtantly encreaſing.

In the whole of the above I have kept in view chiefly the caſe of drowned perſons; but it will be obvious, that many of the meaſures propoſed will be equally proper and applicable in other caſes of ſuffocation; as thoſe from ſtrangling, the damps of mines, the fumes of charcole, &c. and a little attention to the difference of circumſtances, will lead to the meaſures moſt proper to be employed.

These, my Lord, are the reflections on the ſtate of drowned perſons, and of the moſt proper means for their recovery, which, after mature conſideration, have ariſen to me. The directions, propoſed to be promulgated by advertiſement in the ſeveral Counties and Royal Boroughs in Scotland, of which your Lordſhip has been pleaſed to ſhew me a copy, appear to me very judicious, and perfectly adapted to the purpoſe intended. I ſhall be

very

very happy to find, that my entering a little further into the explanation of principles, or the detail of practice, has your Lordſhip's approbation. I have the honour to be, with profound reſpect,

My LORD,

Your Lordſhip's

Moſt obedient, and

Moſt humble ſervant,

Edin. 8th Auguſt.
1774.

(Signed) WILLIAM CULLEN.

Aug. 11, 1774.

EXTRACT

FROM THE

JOURNALS of the BOARD of POLICE,

CONCERNING

THE RECOVERY OF PERSONS DROWNED AND SEEMINGLY DEAD.

PRESENT,

LORD CATHCART, Preſes,

EARL of LAUDERDALE,

EARL of LEVEN.

LORD CATHCART preſented to the Board, a paper relative to *perſons drowned* and recoverable, though *ſeemingly dead*, together with a letter from Dr. CULLEN, his Majeſty's firſt Phyſician for SCOTLAND; before whom the paper had been laid, for his opinion upon the ſubject: Which having been read,

ORDERED,

That the ſaid paper and letter be printed; and that the clerk do ſend copies of it to all the Sheriffs

of

of Counties, Magiſtrates of Royal Burghs, and Moderators of Synods and Preſbyteries in SCOTLAND; and that he do prepare a book for regiſtrating ſuch communications as he may hereafter receive from any Sheriff, Magiſtrate, or Miniſter; and particularly ſuch accounts of ſucceſsful caſes as may be tranſmitted to him.

RESOLVED,

That it is the opinion of this Board, in conſequence of the communications they have had with Dr CULLEN, that the following articles conſtitute a proper apparatus for the recovery of drowned perſons; and that LAWRIE, *jun.* & COMPANY, druggiſts, at the Head of Niddry's Wynd, Edinburgh, are proper perſons to furniſh the ſame, at the prices annexed, *viz.*

1. A FUMIGATOR; conſiſting of a ſmall pair of bellows, a braſs box and handle, a flexible tube, and ivory pipe,	0	10	6
2. A SPARE flexible tube and pipe,	0	2	0
3. FOUR wooden pipes, for blowing into the noſtrils, -	0	1	6

4. Two

4. Two vials of flint glaſs, with ground ſtoppers, containing ſpirits for ſmelling, - - 0 1 6

5. Two flint vials, with ground ſtoppers, containing ſpirits, to be applied to the wriſts, &c. - 0 4 0

ALL theſe included in a box, value, 0 4 0

SEPARATELY, A pair of bellows for blowing into the lungs, 0 6 0

£. 1 9 6

PAPER

PRESENTED BY

LORD CATHCART,

AND REFERRED TO IN THE

PRECEDING MINUTE.

IT has long been known, That perſons drowned, ſtrangled, frozen, or ſuffocated by noxious vapours, are capable of being brought back to life, though ſeemingly dead, by renewing their animal heat, and putting their blood again into motion, upon the ſame principles that perſons fainting are recovered from a ſwoon: and that, in winter, birds of the ſleeping kind, cold, motionleſs, and dead in appearance, are, by gentle warmth, reſtored to their uſual circulation and vivacity.

OUR ſenſes teſtify, that heat and motion are neceſſary to life; and that where thoſe principles are extinct, death is the certain conſequence. It is therefore eaſy to conceive, that in bodies yet entire, where thoſe circumſtances are only ſuſ-

pended, from an accidental cauſe, not extinguiſhed, by diſſolution, from diſeaſe, they may, by proper counteracting application, if taken in time, be reſtored; nor has it yet been determined, how much time may elapſe before that recoverable ſtate ceaſes, or how long the proper endeavours may be uſed, without producing the deſired happy effect, and yet produce it at laſt; circumſtances, which ought to recommend trial in every caſe, where from wounds, or putrefaction, it does not manifeſtly appear impoſſible to ſucceed, and perſeverance, though ſucceſs ſhould not follow ſo ſoon as might have been expected.

THESE truths, obvious in themſelves, are confirmed by the records of philoſophical ſocieties, by traditions, in almoſt every village, and by the experience of almoſt every individual: and yet, though no nation in any age could be ſuſpected of inſenſibility to the joy of reſtoring a father to the fatherleſs, a huſband to the widow, or a living child to the boſom of its mournful parents; yet no effectual ſteps were ever taken to turn the public attention to this object, and to make proper arrangements for the immediate ſuccour of unfortunate perſons to whom ſuch accidents befal, till the year 1767, when the Dutch inſtituted a Society at AMSTERDAM, in favour of drowned perſons; which, by an advertiſement, informed the inhabitants of the United Provinces of the methods pro-

per

per to be uſed on ſuch occaſions; and offered rewards to thoſe who ſhould, with or without ſucceſs, uſe thoſe methods for recovering perſons drowned, and ſeemingly dead.

THE laudable and humane example of the Dutch was followed, in the year 1768, by the Magiſtrates of Health in MILAN and VENICE; afterwards by the Magiſtrates of HAMBURGH, in the year 1771; by thoſe of PARIS, (where, betwixt the 16th of June 1772, and the 25th of March 1773, of twenty-eight perſons drowned in the SEINE, no leſs than twenty-three were reſtored to life); and laſtly, this ſummer, by a Society in LONDON.

THERE is no country, which, from its ſituation, ſurrounded by the ſea, and every where interſected by rivers, lakes, and bays, calls more loudly for effectual meaſures, for affording immediate relief to perſons ſeemingly dead, from drowning, than SCOTLAND; no nation more likely eagerly to adopt ſuch meaſures, if propoſed; nor any, where, from the nature of its government, ſuch meaſures may ſo eaſily be carried into execution; and by the following ſteps:

LET the Board of Police compoſe a proper advertiſement, founded on the principles of thoſe of other countries, containing the neceſſary advice

to the public, and informing them of the reward offered by way of encouragement to thoſe who ſhall follow it; and of the names of the perſons to be immediately applied to, in caſes of accidents, in different diſtricts; and order a ſufficient number of copies of this paper, and of the advertiſement, to be printed; and let copies of the minutes of the Board on this ſubject be ſent to the Sheriffs of Counties, to the Magiſtrates of Royal Burghs, and to the Moderators of Synods and Preſbyteries, all over SCOTLAND, with a recommendation from the Board to requeſt the ſaid Sheriffs, Magiſtrates, and Moderators, whoſe reſpective diſtricts may adopt the meaſure, to ſignify it to the Board, and to communicate ſuch caſes as may, from time to time, occur, with the ſucceſs, that a general regiſter and record may be kept, for the information of the public.

So ſhall it be optional to the Sheriffs and Magiſtrates to lay it before their reſpective Counties and Burghs, at proper meetings, in order that it may be reſpectively adopted and enforced, and a proper proviſion made to ſupply the expence of procuring inſtruments, and iſſuing rewards in caſe a life is ſaved, or attempted to be ſaved, &c. and to the Moderators of Synods and Preſbyteries, to recommend it to their clergy to explain the advice to their elders and pariſhioners, to prevail with them (in oppoſition to the old cuſtom or ſuperſti-

tion)

tion) not to refuſe to open their doors for the reception of ſuch objects as are the victims of ſuch accidents, and to diſcontinue the uſage of hanging them up by the heels, rolling them upon barrels, or violently ſhaking them; and to render the whole as familiar to their underſtandings as poſſible, that numbers of them may be able, as well as the gentlemen of the Faculty, to give immediately the neceſſary relief, in which the Clergy cannot fail to have aſſiſtance of theſe Gentlemen.

WHEN it is conſidered, that no expence, (the firſt purchaſe of an apparatus excepted,) can be incurred, unleſs in the caſe of an accident happening, and relief being given, or attempted to be given, to an unfortunate ſufferer, it is probable that the Noblemen and Gentlemen of the reſpective Counties; and alſo the Royal Burghs will chearfuily aſſeſs themſelves to anſwer the demands, which, within their diſtricts, may be made in conſequence of the advertiſements, for ſo valuable and humane a purpoſe.

THERE can be no doubt that the Clergy will, with their uſual zeal and activity of charity, contribute their uſeful aſſiſtance, and the Medical Gentlemen lend their endeavours; which together, more than the reward, will excite men of all ranks to concur in carrying univerſally and uninterruptedly into execution, at a very ſmall ex-

pence and trouble to the public, a plan by which many may be recalled from the gates of death, and their relations relieved from the depth of diſtreſs.

PLAN of an ADVERTISEMENT, from a General Meeting of a County.

" *MINUTES of the General Meeting of*
at *the* *day*
of

PRESENT,

Preſes.

" THE Meeting having taken into conſidera-
" tion, That there are many inconteſtible proofs
" of the recovery of perſons to life and health,
" who have been taken out of the water for dead,
" although they have been a conſiderable time
" without even the leaſt ſign of life; and as there
" is the utmoſt reaſon to believe, that great num-
" bers, in ſuch circumſtances, might have been re-
" ſtored, had they not been treated in an impro-
" per and pernicious manner, or too haſtily given
" up for loſt, unanimouſly reſolve to make pub-
" lic the following rules, for treating ſuch caſes
" now practiſed in ſeveral countries of Europe
" with amazing ſucceſs, and which are happily
" of ſuch a nature, that they may be begun imme-
" diately, even by perſons not acquainted with

" the

" the medical art, though it is always adviſeable
" to ſeek the aſſiſtance of ſome regular practiti-
" oner as ſoon as poſſible; bleeding being always
" proper, and ſometimes neceſſary.

" 1ſt, In removing the body to a convenient
" place, great care muſt be taken that it be not
" bruiſed, nor ſhaken violently; nor roughly
" handled, nor carried over any one's ſhoulders,
" with the head hanging downards, nor rolled
" upon the ground, or over a barrel, nor lifted up
" by the heels that the water may run out of the
" ſtomach.

" Both reaſon and experience prove, that all
" theſe methods are extremely dangerous, and
" often deſtroy the ſmall remains of life.

" The unfortunate object ſhould be cautiouſ-
" ly conveyed by two or more perſons, or in a
" carriage upon ſtraw, lying as on a bed; with
" the head a little raiſed, and kept in as natural
" and eaſy a poſition as poſſible.

" 2d, The body, being well dried with a cloth,
" ſhould be placed in a due degree of heat, but
" not too near a large fire: The windows or doors
" of the room ſhould, however, be left open, and
" no more perſons be admitted into it than thoſe
" who are abſolutely neceſſary, as the life of the
" patient

" patient greatly depends upon their being ex-
" poſed to a pure air—The warmth, moſt pro-
" miſing ſucceſs, is that of a bed or a blanket pro-
" perly warmed—Bottles or bladders of hot water,
" or hot bricks wrapt in cloths, ſhould be laid at
" the ſoles of the feet, in the joints of the knees,
" under the arm-pits, &c. The ſhirts or clothes
" of an attendant, the ſkin of a ſheep freſh killed,
" the natural and kindly warmth of a healthy
" perſon lying by the ſide of the body, has been
" found, in many caſes, very efficacious.

" SHOULD theſe accidents happen in the neigh-
" bourhood of a warm bath, brew-houſe, baker, glaſs
" houſe, ſalter, ſoap-boiler, or any other fabric
" where warm lees, aſhes, grains, ſand, water, &c.
" are eaſily procured, it would be of the utmoſt ſer-
" vice to place the body in either of theſe, mode-
" rated to a degree of heat, but very little exceed-
" ing that of a healthy perſon, *viz.* 98 deg. of Fa-
" renheit's thermometer.

" 3*d*, THE ſubject being placed in one or other
" of theſe advantageous circumſtances, as ſpeedily
" as poſſible, various ſtimulating methods ſhould
" then be employed.—The firſt and moſt effica-
" cious are, To blow with force into the lungs,
" by applying the mouth to that of the patient,
" cloſing his noſtrils with one hand, and gently
" expelling the air again, by preſſing the cheſt

" with

" with the other, imitating the ſtrong breathing
" of a healthy perſon.

" WHILST one aſſiſtant is conſtantly employed
" in this operation, another ſhould throw the
" ſmoak of tobacco up by the fundament into the
" bowels, by means of a tobacco pipe or fumi-
" gator, ſuch as are uſed in adminiſtering tobacco-
" clyſters: A pair of bellows will ſerve until the
" others can be procured. A third attendant
" ſhould, in the mean time, rub the body, cheſt,
" back, and arms, with a coarſe cloth or flannel
" dipped in brandy, rum, gin, ſalt and water, or
" ſtrong vinegar, ſo as not to rub off the ſkin:
" Spirit of hartſhorn, ammoniacal ſalts, or any
" other ſtimulating ſubſtance, muſt alſo be applied
" to the noſtrils, and rubbed upon the temples
" very frequently—The body ſhould at invervals
" be ſhaken alſo, and varied in its poſition.

" *N. B.* BRONCHOTOMY, or opening a paſ-
" ſage to the lungs through the wind pipe, may
" be neceſſary, when the air will not paſs by the
" mouth into the cheſt; but this muſt be always
" left to the judgement of a ſurgeon.

" *4th*, IF there be any ſigns of returning life,
" ſuch as gaſpings, twitchings, or any convulſive
" motions, the return of the natural colour and
" warmth, and of the pulſe, bleeding, either in

" the

" the arm or jugular vein, or temporal artery, now
" becomes particularly neceſſary. The throat
" ſhould alſo be tickled with a feather, in order
" to excite a propenſity to vomit; and the noſ-
" trils alſo with a feather, ſnuff, or any other
" ſtimulant, ſo as to provoke ſneezings.—A tea-
" ſpoonful of warm water may be adminiſtred
" now and then, in order to learn whether the
" power of ſwallowing be returned; and if it be,
" a table ſpoonful of warm wine, or brandy and
" water, may be given with advantage; but not
" before, as the liquor might get into the lungs
" before the power of ſwallowing returns.—The
" other methods ſhould be continued with vigour,
" until the patient be gradually reſtored; and
" even in caſes where immediate ſucceſs does not
" follow the endeavours uſed, they ought not to
" be remitted for two hours or upwards, as fre-
" quently, after that term, ſymptons of life have
" appeared.

" And, in order to excite a more general at-
" tention to this important object, the Meeting
" farther reſolve,

" That the firſt meſſenger, who ſhall bring
" intelligence of a drowned perſon being taken out
" of the water, to the ſurgeon or miniſter
" of the pariſh in which the diſaſter happens, ſhall
" be entitled to the reward of Half a Crown.

" That

" THAT the perſon or perſons, who, during the " ſpace of two full hours, ſhall have uſed the " means above mentioned, for the recovery of any " perſon, man, woman, or child, drowned, and " taken out of the water, within the county, (the " diſtricts of royal boroughs excepted) ſhall re- " ceive, though ſucceſs ſhould not follow, the ſum " of Two Guineas, and of Four Guineas, if the " perſon is ſaved.

" THAT any publican or other (to whom it is " earneſtly recommended to conſider, that the de- " lay of a few minutes may be of fatal conſe- " quence) who ſhall receive into his houſe, with- " out heſitation, an unfortunate object of this " ſort, ſhall be allowed all neceſſary expences, and " One Guinea for his trouble.

" THAT ſuch bills and rewards, upon certifi- " cates from the miniſter of the pariſh where " the diſaſter happened, application being made " to the clerk of the county within a week, ſhall " be paid by him within fourteen days of ſuch ap- " plication.

" THAT as the above means of reſtoration are " equally applicable to various other caſes of ap- " parent deaths, ſuch as hanging, ſuffocation by " damps and noxious vapours, whether proceed- " ing from coal mines, the confined air of wells, " ciſterns,

" ciſterns, caves, or the muſt of fermenting liquors,
" and alſo to the frozen, (which laſt muſt firſt be
" be rubbed with ſnow, or ſpunged with cold
" water, till unfrozen, and then gradually brought
" into warmth, and aſſiſted by the other means);
" any perſon or perſons, who ſhall have re-
" ceived into their houſe, or recovered a perſon
" ſuppoſed dead, from any of the above cauſes,
" ſhall, upon a ſimilar certificate and application,
" receive the ſame reward.

" RESOLVED, That LAURIE, *junior*, & COM-
" PANY, Druggiſts, at the head of Niddry's
" wynd, EDINBURGH, be immediately wrote to
" for a number of ſetts of their apparatus, equal
" to double the number of pariſhes this country
" contains, at the price of 1*l.* 9*s.* 6*d.* each; that
" two ſetts be diſtributed to each pariſh; and
" that it be recommended to the ſeveral pariſhes,
" to add to advertiſements, which ſhall be
" fixed up within their reſpective bounds,
" the names of ſuch of their inhabitants as
" ſhall have declared their willingneſs to receive
" unfortunate objects into their houſes, and pro-
" vide them with every neceſſary; and of ſuch
" gentlemen who ſhall have declared themſelves
" ready to aſſiſt in the medical way, in caſe of diſ-
" aſters; and alſo of the miniſter and ſurgeons in
" whoſe houſes ſetts of a proper apparatus ſhall be
" lodged.

" RE-

" RESOLVED, That printed copies of the mi-
" nutes of this Meeting be fixed upon the church
" doors, in the market place, and other proper
" places, in each parish within the shire."

THE above form of an advertisement, from a County-Meeting, will answer the same purpose, *mutatis mutandis*, from a Royal Borough.

FINIS.

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